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ABSTRACT

West German apprenticeship combined with part-time vocational schooling--the dual system--provides a smooth transition from school into careers for German youth. One source of complexity in the structure of apprenticeship is the relationship between apprenticeship, which is controlled nationally, and vocational schooling, which is controlled by the states. Not all occupations are authorized as training or apprenticeable occupations, nor do all companies train apprentices. Vocational schools, the second part of the dual system, teach both occupational and general courses. The focal point for most of what happens in vocational schools is the qualifying exam, which employers help to write, administer, and grade. Vocational schools are distinctive from U.S. secondary schools in their intense focus on employment-related learning and in being less important as centers of social interaction. Secondary vocational training prepares qualified skilled workers, comparable to participants in U.S. apprenticeship programs. Limitations of the West German system are its inherent "undemocratic-ness," the narrowness of apprenticeship training, and employers' control. Implications for the United States are that (1) the floundering period (during which students decide on their occupation) is avoidable, (2) vocational education can be improved by upgrading technical quality or altering its purpose to manual training, and (3) learning needs to occur in the workplace. (YLB)

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Apprenticeship as a Transition to Adulthood in West Germany

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Karl Oettinger is an apprentice auto mechanic. He works in a modern, well-equipped garage that is part of a Honda and British Leyland dealership in a large West German city. Eighteen years old, Oettinger is nearing the end of his three year apprenticeship. He has been promised a job in the company upon completion of the examination that will qualify him as a skilled worker or journeyman. To prepare for the examination, in three months, he is taking an evening course that he pays for himself because he wants to get a high grade like his father and brother did. He is already working independently rather than under the direction of a journeyman. He even has the newest and most complete tool set, the source of some envy from other mechanics.

I spent a morning observing Karl at work and talking with him, returning two weeks later for a formal interview. He was one of eight auto mechanics and twelve white-collar apprentices I observed at work and in school and interviewed. I shall describe his situation in some detail because it illustrates some of the features of apprenticeship that contrast most sharply with the modal transition from school to work of young people who do not enroll in post-secondary education in the United States.

In brief, that transition in the United States is marked by a "floundering period" characterized by a succession of low paying jobs requiring few skills and offering few opportunities for advancement. Frequent movement from one job to another results in high frictional unemployment. Only after the age of 20 do substantial numbers of young people begin to enter careers (Osterman, 1980). Our educational system is only loosely tied to the labor market. Secondary school credentials count for little and vocational training fails in most cases to prepare high school students for vocations. Apprenticeship combined with part-time vocational schooling enables West

German youth to enter careers as skilled workers by the age of 18. Although this "dual system" has flaws and is not exportable as a whole to the United States, it reveals that labor market behavior we attribute to youthfulness is more correctly attributed to the structure and operation of our educational system and labor markets and it identifies some promising approaches to improving institutional supports for the transition from school to work.

Karl Oettinger is talkative, enthusiastic, and energetic, a bright, likable young fellow. During the 3-1/2 hours that I visited him, he serviced two Hondas, gave me a guided tour of the dealership, and engaged in long discussions of his work, his plans, his family, and his fondness for the United States. Although I was uneasy about the amount of time he spent talking to me rather than working, he initiated the discussions and no one told him to stop talking and get to work.

As I arrived, the master who oversees the shop gave Karl his work assignment. The work to be done was listed on a card, which he stamped to indicate the beginning time. It was routine maintenance on a new Honda, including an oil change, tune-up, and checks such as tire pressure, fluid levels, and headlight focus. Because of all the talking, Karl took two hours to do the job rather than his usual 45 minutes. He explained in detail why he was doing what he did, offering a brief disquisition, for example, on the desirable level of acidity in a battery's electrolyte. His second assignment was also regular maintenance, but this time on a five-year-old Honda that required a valve adjustment and a retightening of the head. Retightening the head, he explained, corrects distortions caused by differential temperatures in light metals.

Throughout the morning Karl repeatedly expressed pride in his employer

and in himself. While working on the new Honda he listed its features and claimed that no German-made automobile in its price range could match its speed and accessories. During the tour, he predicted that the firm, "we," would soon become the top Jaguar dealer in the city, because of a large inventory and because their shop provided the best service. He expressed personal pride as he signed the tags recording date and mileage for adding oil and testing anti-freeze, noting that some other mechanics were reluctant to take responsibility for their work. He also said other employees sometimes call in pretending to be sick, but he never did and always worked extra hours to make up any time he missed.

Karl's pride and self-assurance were also visible in his plans for the future. He volunteered that after four or five years he would go back to school to become a master, a difficult challenge but better in the long run than remaining a journeyman for 40 years. After that, he said, he might study further to become an engineer. Later he said what he would like most would be to work on designing engines, but the chances of getting that opportunity were as remote as winning a lottery.

When I asked about these plans during the interview two weeks later, Karl explained that something new had come up in the meantime. His boss had offered him a job as a salesman, which would mean a higher salary and a company car for his private use. He had not yet decided but was "99 per cent certain" he would take it. The opportunity arose after he had done some part-time sales work during evenings and weekends and customers had praised him to the boss. This position would give him advancement opportunities in sales and management, but he said he would complete his apprenticeship and take his examination anyway because he might still want to become a master and

engineer and in case something unforeseen happened he would always have his qualification as a mechanic.

This sudden shift of an apprentice mechanic into sales is not at all typical. Most salespersons must complete a very different kind of apprenticeship accompanied by schooling appropriate to commercial occupations. Oettinger's atypical case illustrates very dramatically, however, three points about West German apprenticeship. The first is that it provides direct entry into careers at an age when young people in the U.S. are either still in school or just beginning to seek full-time employment, most of them in the secondary labor market, which is defined by the absence of career possibilities. The second is that apprenticeship rather than full-time schooling is the foundation for the transition into adult working life. Third, although apprenticeship can legitimately be criticized as overly narrow, it is the entry point into a range of career opportunities, not a narrow channel. I shall develop these points in the following pages, but first I need to add more information about Karl Oettinger in order to present a balanced portrait of him and to heighten the contrast between West Germany's provisions for young people like him and our own.

One might infer from the foregoing description that Karl is a compliant young man who has "bought into the system," an adolescent organization man or worse, another example of German deference to authority. But that would be an inaccurate assessment of his behavior and his perspective. In fact, Karl expressed a critical view both of his training and of the auto mechanic's occupation. His chief complaint about his training was that he had learned primarily routine maintenance on Hondas. He would like to have done more work on transmissions and rear axles, he said, but because the cars are so well

made these components seldom need service. He admitted to feeling envious of another apprentice who was learning to work on Jaguars and, to emphasize the point, took me over to inspect a V-12 engine, a vastly more complex piece of machinery than the little four-cylinder engines he had mastered. But, he went on, there is a larger issue: "My occupation is in a crisis." Auto mechanics are trained to locate, disassemble, and repair defective components, but the cost of labor is so high that it is usually less expensive simply to throw out the old part and install a new one. "We are becoming nothing more than parts changers," he complained.

His critical voice was even stronger when asked to comment on his vocational schooling. The curriculum, he said, places too much emphasis on peripheral topics and it is not coordinated. Brake systems are studied from a theoretical perspective in one class while applied knowledge comes in another class at another time. Although some of the peripheral material may be important if one goes on to become a master and engineer, by that time it must be relearned anyway. He did not enjoy his classes in German and social studies either, but allowed that they were important and useful.

Karl's behavior in school was even stronger evidence that his attitude toward his work was not simply acquiescence to established authority. He was anything but a model student. While I visited his class, he got out of his seat several times, carried on a constant conversation and an occasional wrestling match with his desk-mate, disagreed with the teacher about whether a topic had been covered in class before, and copied two in-class exercises from someone else's paper. He was not malicious or incorrigible, just a goof-off, but hardly the kind of pupil to inspire confidence in an employer. Yet Karl's employer did have confidence in him and, my observations of him at work made

me think that confidence was well placed. There is a difference between being a good worker and being a good student that Karl's case illustrates dramatically and that highlights the differences between secondary education and the transiton to employment in the U.S. and West Germany.

The West German Educational System

The two features of West German secondary education that are most distinctive in comparison with secondary education in the U.S. are its differentiation into three levels of schools and its reliance on apprenticeship. The differentiation comes early and it is strong. All children attend the Grundschule or elementary school in their neighborhood.[1] They begin in the first grade at age six.[2] At the end of grade four (grade six in some states), those judged capable of entering universities are separated from the others and enrolled in Gymnasien, college-preparatory secondary schools.

This judgment is based upon school grades, teacher recommendations, and, in special cases, an examination. Parents may be able to insist that their children be enrolled in a Gymnasium but not that they remain there if they are found incapable of doing the work during an orientation period. That work is substantial. The curriculum is heavily academic and the work load is demanding. In metropolitan areas Gymnasien specialize in, for example, math and science, music, modern languages, or classics. The Gymnasium continues through grade 13 and concludes with an examination. Passing that examination confers the Abitur, which qualifies its holders to enter a university.

West German universities are more narrowly academic than those in the U.S., concentrating on traditional arts and sciences and the learned professions without offering applied courses in such fields as management,

accounting, and agriculture. Instruction in such fields is found in other institutions of higher education, but not in universities. Since university students have already received a broad liberal arts background in Gymnasien, equivalent to at least a year and perhaps two in U.S. colleges, university courses are much more specialized. Future medical doctors and lawyers, for example begin their courses of study right away. Therefore, university courses may vary from three to eight years. Universities charge no tuition. Government loans are granted to low-income students; parents who are financially able to do so are required by law to provide living expenses for their children while they are enrolled. When applications exceed the universities' resources and anticipated needs for trained professionals, as they do routinely in such fields as law and medicine, students are admitted in a sequence determined by their Gymnasium grades and final examination scores (the Numerus clausus: See Spence, 1981).

Returning to the elementary school, those pupils who do not enter a Gymnasium remain in the Hauptschule or main school, usually in the same building as the Grundschule. At the end of grade six, a second selection occurs and the more academically able of the remaining pupils are enrolled in Realschulen, formerly called middle schools. These prepare pupils for technical and commercial occupations. They end with grade ten. Graduates obtain the mittlere Reife, literally "intermediate maturity," which qualifies them to enter either apprenticeship or further vocational schooling.

Pupils who remain in the Hauptschule complete their course at the end of grade nine (grade ten in some states). Like Realschule completers, they may then enter either apprenticeship or further vocational schooling. There is some overlap in the paths of the two groups, but Hauptschüler must complete

additional schooling before entering the vocational schools Realschüler can enter immediately and Realschüler have a distinct advantage in applying for apprenticeship places. While Hauptschüler may be trained as carpenters, auto mechanics, office assistants, and sales clerks, Realschüler can choose from those options plus occupations such as laboratory technician, precision mechanic, secretary, and personnel manager. Hauptschüler are limited predominantly to manual occupations, while Realschüler are qualified to enter technical and lower-level managerial occupations. It is important to note that Hauptschüler need not have passed either their courses or an examination to proceed to the next step. Poor or failing grades reduce their chances of finding a good apprenticeship, but do not automatically exclude them.

Educational reform efforts over the past two decades have focussed on democratizing what was criticized as an elitist system. One approach has been to reduce the barriers between the different levels of schools, primarily by introducing more uniformity into the curricula of grades five and six. As a result, some upward movement does occur, but downward movement is far more prevelant. The most dramatic reduction in barriers has been the expansion of "the second educational path" (der zweite Bildungsweg), which enables a small group of dedicated and energetic people who did not attend Gymnasium to earn entrance to a university through a combination of night school and advanced trade training. According to Naumann (1980, p. 71), higher education was previously restricted almost exclusively to Gymnasium completers, but by 1975 13% of those entitled to enter higher education came from other schools.

The most controversial approach to democratization and the focus of reform efforts through the 1970s, was the introduction of comprehensive high schools (Gesamtschulen). With the exception of a few states with strong

leftist political traditions (West Berlin, Bremen, Hesse), this movement lost momentum by the end of the decade (Mitter, 1980), with only 16% of secondary school pupils enrolled in comprehensive schools, half of which are actually the three traditional types of schools under one roof (Körner, 1981).

However, the strongest democratization in West German education has not come in school structure but in enrollment patterns. While the Hauptschule was formerly the predominant form of schooling, enrolling over 70% of eligible youth in 1960, it now enrolls less than half, with the remaining half divided fairly evenly between Realschulen and Gymnasien, once relatively elite institutions (Grund- und Strukturdaten, 1983/84, p. 36).

The Dual System

"Das duale System" is the combination of apprenticeship with part-time vocational schooling that provides a transition from full-time school into careers for youth not enrolling in higher education. About half of 16-18 year-olds are apprentices (Grund- und Strukturdaten, 1983/84, p. 80) but many enrolled in full-time vocational schools move into apprenticeships later, sometimes with a shortened term and sometimes without the accompaniment of part-time vocational schooling.

Apprenticeship

Apprentices and their parents sign contracts with employers, the terms of which have been determined by collective bargaining and are standard within each occupation. Apprentices receive modest stipends, normally in the range of $150-200 per month (Munch & Jung, 1980, pp. 49-52), and they are entitled to paid vacation, typically four weeks. Apprentices who complete their training and pass the qualifying examination are certified to be skilled workers and, as such, are entitled by law to earn the wages set by collective

bargaining for their occupation. A survey of youth completing full-time schooling in 1977 found that 58% of those who had completed apprenticeships were employed by their training firm one year later. Only 4% were unemployed (Stegmann, 1983, pp. 32, 34; see also Williams, 1981).

The following statement, the opening paragraphs of the annual Report on Vocational Education (Berufsbildungsbericht) issued by the Federal Minister for Education and Science in 1984, contains so much that is both characteristic of West German apprenticeship and distinctive from the United States that it deserves detailed explication.

> 1983 was a record year for vocational training in the dual system. Never before in the Federal Republic of Germany have so many youth found an apprenticeship as in 1983. This is the result of a joint effort of all participants in the vocational training system—the companies, employers' organizations, labor offices, chambers, unions, and public administration.
>
> Such a unified joint effort is also necessary in 1984 in order to assure future training and vocational opportunities for youth, to strengthen the competitiveness of the economy, and to fulfill the social obligations of the society. (Translated by the author.)

The greatest current challenge to the West German system is the shortage of apprenticeship places resulting from the conjunction of large numbers of youth attaining school-leaving age—the cohort born in the baby boom accompanying post-recovery prosperity in the 1960s—and a sluggish economy owing to worldwide recession. Other causes include tighter laws governing apprenticeship programs and advancing automation (Winterhager, 1980). On the same page of the report quoted above, we find that on the last day of 1983, 31,483 registered applicants for apprenticeship places still had not found them and that only 5,192 apprenticeship places remained unfilled—many of which would not be appropriate for the skills, locations, and interests of the applicants. The report's stress on the record number of placements was

clearly intended to balance public concern about the number not placed. At only 5% of the total placed in apprenticeships, those left out do not constitute a large proportion, but many youth have been diverted into school-based vocational training and others have accepted less desirable placements because of the shortage. The seriousness with which the public and political leaders view this problem reflects its newness and the importance attached to apprenticeship training. The report's theme of a serious challenge successfully met must be understood in the context of political debates in which the party in power (CDU/CSU) has insisted that fundamental changes are not required in the vocational training system (cf. Lenhardt & Schober, 1980).

The third sentence's reference to a joint effort (Gemeinschaftsaktion) provides an accurate enumeration of the diverse actors in the system. The companies are ultimately responsible for apprenticeship. They provide the bulk of the places, pay apprentices' stipends, and bear the costs of apprentice training. Employers' organizations and unions are naturally adversarial in most of their dealings, but their functions and relations are well established in the politics of vocational education. Both organizations are accepted as natural and legitimate channels for promoting their members' perspectives. Neither is disparaged as a special interest. The chambers are also employers' organizations, but their relation to employers is not solely promotional. There are specific trade or craft chambers for small businesses engaged in manual work, such as house painters, bricklayers, bakers, and barbers. There is a chamber of industry and commerce for all sorts of large businesses. Membership in and financial support of these chambers is mandatory. Although they do in fact promote and represent employers' points

of view in many cases, they also have regulatory authority, particularly with respect to apprenticeship. Any employer wishing to train apprentices must maintain the standards enforced by the appropriate chamber.

Labor offices are operated by the federal government. They play a much larger role in job placement than U.S. employment offices, especially for apprenticeships, because employers are urged to register all apprenticeship places with them, and because by law only labor offices are authorized to give youth occupational guidance and placement counseling. School teachers are legally denied that role. Public administration is included in the list of participants because public administration is recognized as another field of employment and, as such, provides apprenticeship places for future officials and other workers who may eventually be employed in either the public or the private sector. The post office, the government-owned railroad, and the military, among others, all attempted to increase the number of young people they could train in response to the shortage of apprenticeship places.

The second paragraph, while urging continued unified (solidärische) joint effort, lists the functions of apprenticeship. The first function, providing training and vocational opportunities for youth, is familiar enough, but strengthening national competitiveness and fulfilling social obligations are broader purposes. The West Germans depend very heavily upon exports for their prosperity and apprenticeship training is widely seen as essential to the high quality that maintains competitiveness. The notion that employers have social obligations to fulfill by training apprentices may seem quixotic, but apprenticeship is viewed as an entitlement of young people as much as schooling, and employers are seen as obligated to provide vocational training.

The structure of apprenticeship is complex and variegated. One source of

complexity is the relation between apprenticeship and vocational schooling. Schools are controlled by the states (Länder) but apprenticeship is controlled nationally. Moreover, specific regulations governing the content of apprenticeship and oversight of companies training apprentices come from the chambers, with a different chamber responsible for each major occupational field.

By far the largest categories for occupations are industry and commerce (Industrie und Handel) and handwork or crafts (Handwerk). Industry and commerce comprises manual and technical (gewerblich-technisch) and clerical/managerial (kaufmännisch) occupations in larger firms. There is one chamber for all of these firms and occupations. In 1983 47.3% of all apprentice contracts were in the domain of industry and commerce. Handwork absorbed 36.5% of all new apprentices in the same year, but each handwork occupation (butcher, bakery salesperson, pastry cook, plumber) is represented by its own chamber. Almost all of the remaining apprentices are found in agriculture (3.6%), civil service (3.8%), and as professionals' helpers (8.1%) (Berufsbildungsbericht, 1984, p. 25). Rather than having a chamber, apprenticeship in the civil service is controlled by appropriate branches of the government (Münch, 1979, p. 44).

The path from training to career can be quite simple and direct, as it is when a young person is trained by a company ina specific occupation and then hired by that company to perform in that same occupation. However, there are other paths as well. In the first place, not all occupations are authorized as training or apprenticeable occupations. There are over 400 recognized as training occupations, but the trend has been toward lower numbers as related occupations are unified in order to increase the flexibility of the system by

preparing apprentices for larger clusters of occupations rather than for only one occupation. The training occupations lead in turn to over 20,000 occupations, some requiring further training (Deutscher Industrie- und Handelstag, 1982, p. 7).

Not all companies train apprentices. The same report (Deutscher Industrie- und Handelstag, 1982, p. 8) estimated that 10% of the firms engaged in industry and commerce and 40% in the crafts or handwork sector are training firms. The difference between the two sectors is revealing of the differential costs of apprenticeship to companies. The net costs of apprenticeship training to employers is a topic of debate between employers and unions, the employers insisting that they invest substantial sums and unions arguing that some employers exploit apprentices as a source of cheap labor. Although outdated, average net costs estimated in the early 1970's probably accurately reflect current proportional outlays: DM 6,692 per apprentice per year for industrial and commercial firms with over 1000 employees: DM 5,050 for such firms with less than 1000 employees; and DM 2,582 for handwork firms. Other occupational sectors all had lower net costs (Munch, 1979, p. 91). It is safe to say that large industrial and commerical firms make substantial investments in training apprentices while smaller firms invest less and handwork firms invest less than half as much, which accounts in large part for the difference in proportions of firms offering training: since it costs less for handwork firms to train; more of them do.

Why would private companies make any investment at all in training young people who have no obligation to apply their training in the same company? One part of the answer is contained in the quotation's reference to the social obligations of the society. Apprenticeship is so deeply embedded in the

society and the economy that the private sector is seen as obligated to provide training. Perhaps the most vivid demonstration of that presumed obligation was the passage in 1976 of a law empowering the federal government to levy a new payroll tax if sufficient apprenticeship places were not provided, the money raised thereby to be spent on alternative, primarily school-based, vocational training programs for those young people unable to find apprenticeships (Taylor, 1981). Although the tax has never been levied, the number of apprenticeship places has been increased, suggesting that the threat was effective. The need for a threat indicates the private sector's view that their obligation is bounded, but the ability of the Bundestag to pass such a law against the objections of employers indicates the societal expectation that an obligation exists.

Despite its foundation in tradition, an abstract obligation does not explain why some companies choose to train apprentices while the majority do not. Self-interest is also involved. One way in which training apprentices serves a company's self-interest is that the public is aware of the machinery for controlling the quality of apprenticeship training. A company that trains apprentices is, as a result, certified as doing high quality work. Manufacturing firms describe their apprenticeship programs in their glossy annual reports. Handcraft firms display signs in their windows announcing that they train apprentices.

But the strongest form of self-interest is in what apprentices can do for an employer. This, in turn, varies according to the sector and the size of the firm. Large industrial and commercial firms invest in training because they expect to employ the people they train and to recoup in productivity what they have invested. These firms typically train approximately the number of

young people they expect they will need to fill their upcoming vacancies. They are highly selective about who becomes an apprentice. Apprentices who fail to meet expectations are simply not hired when their training is done, screened out more easily than they might have been if they had been hired initially for regular positions. An apprenticeship in a large firm is considered highly desirable, not only because it is a smooth path toward employment in the firm itself but because training in a prestigious firm provides relatively easy access to employment in other firms.

Apprenticeship in large industrial and commercial firms is qualitatively different than in other types of firms, and not solely because of the company's larger investment. That investment buys full-time, highly qualified trainers and training facilities set apart from production. But a large firm also offers many more options for placements — opportunities for learning — than most small ones. Apprentices can move from one department to another in order to obtain the widest possible exposure to the firm. They can be placed under the supervision of experienced employees who have volunteered to work with apprentices and who feel committed to that work. Apprentices are there primarily to learn; if they can learn best by contributing to productive work, al the better, but the work done need not substantially offset the costs of training until after training has been completed.

Smaller firms are less desirable and therefore less selective in choosing apprentices. They have fewer openings and are less able to predict what openings will be available in two or three years for apprentices to move into when they complete their training. They cannot employ enough apprentices to make a full-time trainer economically viable or to support facilities reserved for training. The number of departments and the associated range of

experiences open to apprentices is more limited. If no one in a particular department is committed to working with apprentices or especially good at it, someone has to take them anyway in order to give them the chance to learn what happens there. The work apprentices do is relatively more important. They may be pressed into service to fill vacancies left by illness, vacations, or departures and kept in the same place longer than their learning needs would dictate.

This general advantage to large firms should not be interpreted as a universal law. An apprentice in a small commercial firm may learn more functions in greater depth because the firm as a whole is comprehensible and she or he is able to work in all facets of its operations. One white collar apprentice I interviewed in a large firm made this point by saying he could learn much more by working with the buyer in his father's firm, who buys supplies, raw materials, equipment, and everything else needed by the firm, than by working in the section of the purchasing department of his training firm that buys nothing but synthetic automobile parts. Trainers in the large firms I visited made the same point, that while they could in general offer a better apprenticeship, some small firms give excellent training.

Limitations to the quality of apprenticeship owing to size of firm are particularly noticeable in the handcraft sector, which continually trains more apprentices than can be hired as skilled workers. Ironically it is this shrinking sector that has absorbed the largest portion of the increased number of apprentices.[3] The reason for this distortion may be traced to the lower costs for training. It is a simpler matter for a cabinetmaker to add a third apprentice than for an electrical manufacturer to add 20 more apprentices who have little chance of being hired later. In fact, many handcraft shops would

have to hire helpers at higher wages if they did not have apprentices to carry tools and supplies, clean up, and fetch food and drink. Much of the drive for reform over the past two decades has come from the perception that too many apprentices were spending too much of their time in such unskilled activities and too little time learning.

The consequences of this distortion would be more severe if large employers did not welcome applicants trained in handcrafts. They are seen as skilled, careful, reliable, and trainable. They move in large numbers, therefore, into semi-skilled and skilled positions in industry and into the service sector (Berufsbildungsbericht, 1984, pp. 55-66), where jobs are not only more plentiful but also generally higher paying.

Despite this and other problems, West German apprenticeship usually impresses U.S. observers with its quality (Reubens, 1980; Limprecht & Hayes, 1982). Its continued vitality is indicated by the increasing tendency of Gymnasium graduates to become apprentices. In 1970 only 1.3% of those qualified to enter universities became apprentices in officially recognized programs. By 1978 5.5% did so, and the prospects were for continuing growth because of limited openings in the universities and poor job prospects for university graduates (Stegmann & Kraft, 1983; Berufsbildungsbericht, 1984, pp. 67-70). Studies of the occupational achievements of men trained as skilled workers, a category including fully 70% of male employees who have served apprenticeships, indicate that apprenticeship leads to secure gainful employment in a range of occupations in addition to the training occupation (Hofbauer, 1981; Lempert, 1982).

Part-time Vocational Schools

Vocational schools (Berufsschulen) accompany apprenticeship as the second

part of the dual system. Enrollment in them fulfills the compulsory schooling requirement, which extends to age 18. The traditional schedule places apprentices in school for one or one-and-a-half days each week. In recent years, "block instruction" has become more popular—full-time schooling for five or six weeks at a time two times a year. The vocational teachers and most of the apprentices I spoke with favored block instruction but employers have resisted it, especially small employers, because it means dismissing all of their helpers for the same extended time.

Vocational schools teach both occupational courses and general courses such as social studies and German. Mathematics is taught in courses specifically related to an occupation, such as accounting for commercial apprentices and the calculations used in machine shops for metal workers. Vocational schools for manual workers give practical instruction in workshops. Like Gymnasien, vocational schools can be highly specialized in large cities but must be more general in less populated areas. Youth in rural areas must either accept apprenticeship in an occupation for which both an apprenticeship place and a school are conveniently located or move to a metropolitan area for training.

My observations in two vocational schools, one for lower level managerial employees in industrial firms (Industriekaufleute, the other for auto mechanics, led me to see the qualifying examination as the focal point for most of what happens in such schools. (See also Sardei-Biermann, 1984; Dittmann-Kohli, Schreiber, and Möller, 1982.) This examination covers all of the major subjects taught in the schools. It is written, administered, amd graded by the appropriate chamber. The regulations governing the examinations specify that the examination committees include a majority of employer

representatives, along with vocational school teachers and employees' (i.e., union) representatives. This arrangement strongly links the vocational schools' curricula with employers' views of what employees should know.

The written portion of the examination is in multiple choice format. It is dominated by factual material and by fixed procedures, which must be learned by rote. Commercial apprentices also have an oral examination in which they can demonstrate their social graces, their thinking skills, and some of the specific knowledge they have gained on the job. Auto mechanics, like other manual apprentices, have a practical as well as a written test. They are given tools, materials, and a blueprint and must construct a metal device within a set time, which is evaluated for precision and craftsmanship. But it is the written examination that orients the schools' curricula.

While leading me to her classroom, one teacher apologized for the absence of pedagogical variety. Because the amount of class time had been reduced without changing the examination and course content, she explained, there was no time for small group work or discussion. In this and in other classes, teacher lecture predominated, often supplemented either by mimeographed handouts summarizing the points to be memorized for the examination or by notes written on the blackboard, which pupils were instructed to copy. Pupil participation was limited to supplying answers to problems or to playing "guess what is in the teacher's head" in response to more open-ended questions.

But this pattern of teacher-centered instruction cannot be attributed solely to the examination. It is the prevailing pattern in West German elementary schools (Hopf, Krappmann, and Scheerer, 1980, p. 1130). And it is predominant in U.S. schools despite various reform efforts as Cuban (1982) and

others have pointed out. In technical subjects, given the examination's importance to both pupils and teachers, the teachers' role as information-giver makes some sense. Teachers are given a very detailed curriculum to follow by the equivalent of a state education department and they can be confident that the examination questions will be drawn from that material. Furthermore, many of them have been trained and employed in the field they are teaching and they can add their independent judgment of the importance of what they are teaching. However, the foundation for teacher lectures is much weaker in the general courses such as social studies and German. It disappears altogether in religion, which is required in Bavaria but is not part of the examination.

I observed a religion teacher who might have been a missionary preaching to the heathen. His pupils were resistant to the point of surliness and I could discern only the most tenuous thread of coherence in his monologue. He assurred me that this was a particularly ill-behaved class and I did see him get along much better with another group but I also saw the same class pay far more respectful attention to their teachers in other subjects and demonstrate good behavior in their employer's instructional shop.

This class's social studies teacher used the same didactic strategy as the religion instructor, while maintaining firm control and imparting more usable knowledge. He discussed current events such as disarmament negotiations and the reasons for the U.S. dollar's rising value against the West German mark in an informative and critical manner, providing insights from his personal experience and urging his pupils to look for the connections among things becausc without seeing the connections one cannot understand events. But he did all this in the same teacher-centered manner. The pupils

were urged to think but not given a chance to practice doing so. They were given information, but that information was controlled by the teacher and intermingled with his opinions.

In contrast, their shop (Fachpraxis) teacher gave an impressive demonstration of how engaging vocational instruction can be. He had only ten pupils, half as many as in the other classes since classes were divided for shop instruction in this school. The lesson was on master brake cylinders. Using a diagram drawn on the blackboard, he explained its principal parts and their functions with steady participation from the pupils in the form of both answers and questions. The teacher's questions called for both short and extended answers—the name of a part and an explanation of what it does. After half an hour, the teacher moved the class to a table in the back of the room. With the pupils surrounding the table, he quickly disassembled a real master cylinder with a slice cut out to reveal its internal workings. As he removed the parts, he named each one and placed it on the table. He called attention to a small part, saying it was especially important to know it for the examination.

Next the teacher presented a dual cylinder, also sliced open for demonstration, explaining that it was from a truck. The pupils joined in identifying the parts and describing their functions. One asked about the function of a screw-on cap with a spring. The teacher turned the question back to the pupils, who made several guesses until he showed them it was a second valve. The first cylinder had only one. Finally, he brought out a smaller intact master cylinder, saying it was a recent model while both of the others were old. As one pupil began casually reassembling the first cylinder, the teacher encouraged him to complete the job and all watched him do so.

This class had more pupil participation than any other one I observed. It made excellent use of the fact that the pupils had both been instructed about brake systems and worked on them before, stressed the common elements found in different types, and moved from a diagram to demonstrating real brake cylinders. The teacher was clearly the authority, but he expected the pupils to have some knowledge too and gave them a chance to show it.

My interviews with apprentices and other studies (especially Sardei-Biermann, 1984) indicate that they view the vocational school much as comparable U.S. high school students view school, as a necessary nuisance. They described some instruction as valuable for employment and citizenship but mostly they saw themselves as taking in what the teacher said and remembering it long enough to pass a test. They were most uniform in describing social studies as worthwhile, giving as illustrations learning about such matters as voting and employment contracts. Their evaluations of vocational instruction were more mixed. Most saw it as providing some broad background but many emphasized how different their school instruction was from what they had to do in their workplaces. A frequent complaint was that the qualifying examination was based almost exclusively on what they learned in school. Almost all heartily disliked religion. Karl Oettinger was only one of many who criticized the lack of coordination between school instruction and apprenticeship tasks.

In addition to being part-time, Berufsschulen are distinctive from U.S. secondary schools in their more intense focus on employment-related learning and in being less important as centers of social interaction. No West German schools offer the range of extra-curricular activities common in U.S. schools. But Berufsschulen also separate young people from their friends

since enrollment is determined by occupation rather than neighborhood. My respondents said they spent time with their closest friends in settings such as homes, taverns (an inadequate translation of the much friendlier word, Lokal), discoteks, youth centers (Freizeitheimen), and sport clubs. They may attend school with a few friends, but unless they are assigned classes in a group with all the other apprentices from the same firm, going to school is a much more isolated experience than in the U.S.

The Transition from School to Career

West German youth move directly from school, via apprenticeship and part-time vocational school, into careers. The link between the educational system and the labor market is very strong. Career entry at age 18 or 19 is the norm for those youth who do not study at universities. The modal transition from school to career is very different for comparable youth in the United States. Career entry is typically postponed until the early to mid-twenties, coinciding with the career entry of age-mates who have attended college. The time between completion of high school, whether by graduation or dropping out, and career entry has been characterized as a "floundering period," especially for males. The floundering period is defined by frequent spells of unemployment or absence from the labor market and high job mobility within the secondary labor market. The secondary labor market includes low-paid, low-skill jobs, often in small firms, with little security, few opportunities for developing skills, and no career ladder.

A brief digression on labor market theory may help to clarify this point. A traditional, one might say naive, theory of the labor market is that it is a continuous hierarchy in which wit and hard work are naturally rewarded with promotion. One exemplar of such a labor market is the firm in which all

employees start in the mail room and work their way up. There are in fact some firms in which all the top executives did just that. However, the increasing importance of technical knowledge and skills and of advanced educational credentials has led to increasing segmentation in the labor market. Junior executives are chosen from graduate schools of business rather than the ranks of clerks and bookkeepers. Without the proper credentials, certain segments of the labor market are off limits, regardless of an individual's intelligence and application.

The expansion of the service sector in the U.S. economy has created a growing supply of jobs that demand and provide little training, pay as little as possible, and offer few possibilities for advancement. Given low entry requirements and low pay, the penalties for quitting or being dismissed are low. In fact, the best chance for increasing one's earnings is finding a new job. Therefore, mobility is high, leading to high rates of frictional unemployment. This growing secondary labor market is filled with young people, women, minorities, and dropouts working as custodians, store clerks, gas station attendants, and in fast food restaurants.

A crucial fact about the secondary labor market is that it provides work for youth but not careers. The existence of the secondary labor market reflects a demand for workers with minimal qualifications willing to work for low wages under marginal conditions. The availability of such a pool of workers depends on their lack of access to the primary labor market. While a college diploma is the best assurance of access to the primary labor market, there are many primary labor market jobs that require much less in the way of educational credentials. These are entry level manual and commercial jobs that provide some combination of formal and informal on-the-job training,

offer advancement possibilities, living wages, and reasonable security. But these jobs are not available to most young people before the age of 20, the major exception being young women with secretarial skills. Employers discriminate against youth, not on the grounds of credentials but on the grounds of their age and presumed instability. The same young people who are viewed as poor risks at age 18 are hired at age 22 as factory workers, salesmen, manager trainees, and in other career entry positions with no additional schooling and no new specific job skills (Barton, 1976; Osterman, 1980).

There is a self-fulfilling prophecy in operation here. Employers view youth as unreliable and therefore employ them only in secondary labor market jobs where tenuous attachment to a particular employer and to the labor market are structurally encouraged. Why shouldn't a 20-year-old quit his job and drive to California for three months if the job he can get when he returns is no worse than the one he has now? He should certainly be advised to change employers at the first chance to earn 20 cents an hour more since his employer will lay him off or cut his hours at the first sign of a drop in sales.

The direct movement of West German young people into career entry positions in the primary labor market proves that restricted opportunities, not limitations inherent in U.S. youth consign them to the secondary labor market. Eighteen year old new car salesmen, auto mechanics, personnel officers, TV repairmen, travel agents, and policemen in West Germany are inherently no more responsible than their age-mates in the U.S. They have less formal schooling. But they have a clear, direct, and functional path into careers that is absent in the U.S. The supposedly irresponsible labor market behavior of U.S. youth does not result from their youthfulness but from

the structure of our educational system and labor markets.

The second point of contrast between the U.S. and West Germany is our strong reliance on schools as the principal institution other than the family supporting the transition of youth into adulthood. During the 1970s, the most frequently repeated criticism of U.S. secondary schools was that they are isolated from the larger community with detrimental consequences for adolescents' development. The classic statement of this critique was made by the Panel on Youth of the President's Science Advisory Committee (1974), but numerous other blue ribbon panels of scholars, educators, and social critics issued similar statements. A healthy variety of promising programs consistent with these recommendations sprang up around the country, but they remained interesting innovations, never threatening the traditional structure of secondary education or changing the modal patterns of transition to adulthood. (See, e.g., National Commission on Resources for Youth, 1974; Conrad and Hedin, 1982; Hamilton, 1980, 1981.)

By the middle of the 1980s, the political climate had changed so dramatically that the issue of isolation was dropped and the problem of youth at the transition to adulthood was redefined as one of inadequate schooling. The many new reports on secondary education paid little attention to disadvantaged youth, the youth labor market, problems of socialization and development, or the reports of the previous decade. The problem was that young people were performing poorly on tests of academic skills. This was tied, without benefit of either theory or research, to declining productivity and competitiveness in the U.S.economy. The solution, we are told, is to give youth more demanding courses and keep them in school for more time.[4]

The West German dual system is important as a counter-example,

challenging the unstated assumption that schools are the only or even the best settings for learning. A German word, Schulmüdigkeit, meaning school-weariness, identifies a problem that their system recognizes while ours blames the victim. Classroom instruction has failed to engage the interest and improve the performance of a substantial proportion of youth and will continue to fail if only intensified; out-of-school learning is a viable alternative. Evidence can be found in evaluations of alternative schools, experiential learning programs, drop-out prevention programs, and vocational education. (See Hamilton, 1984, and McDill, Natriello, and Pallas, 1984, for reviews of this evidence.)

Vocational education clearly demonstrates the U.S. reliance on schools. Although it includes cooperative education and on-the-job training, it is predominantly school-based. Furthermore, it is largely ineffective as preparation for employment. There are exceptions to this pessimistic generalization. Some exemplary schools and programs move young people into related skilled and semi-skilled occupations. The most uniform positive results by this criterion is in clerical training. Employers do hire young women with such skills immediately out of high school and the skills transfer quite well. But the larger picture is not so bright. Vocational education generally does not educate young people for vocations. Studies conducted or reviewed by Berryman (1982), Conroy (1979), Grasso and Shea (1979), Reubens (1974), O'Toole (1979), and Wilms (1984) indicate that vocational graduates have little if any advantage in the labor market over graduates of the general and academic tracks. According to Conroy (1979), about one-fourth of U.S. secondary students enroll in vocational programs and of those less than one-third ever work in the occupation for which they were trained. There are

grounds for debate about this issue in the definition of vocational enrollment and the complexities of occupational mobility, not to mention the realities of the labor market already described. Surely the inclusion of marginal programs and students with no commitment to their training occupation masks the impact of effective programs, but it is impossible to argue that U.S. vocational education in general does a good job of preparing youth for employment.

The contrast with West Germany is stark. Not only is vocational training the norm for upper secondary school youth, but that training qualifies participants as skilled workers. Few vocational education programs in U.S. secondary schools even aspire to that level of skill training. From the perspective of the level of training offered, U.S. apprenticeship programs are more comparable. But the comparison only highlights how much larger and more central apprenticeship is in West Germany. According to Reubens (1980), who has done the most extensive multi-national studies of apprenticeship, U.S. apprenticeship is concentrated in a few trades, primarily construction-related, and has a completion rate[5] of less than 20% compared to over 40% for West Germany (p. 30). She attributed low completion in the U.S. to small pay differentials between workers with and without completed apprenticeship training. Perhaps most dramatically, apprentices comprised 5.7% of the labor force in West Germany in 1977, when they were 0.29% of the U.S. labor force (p. 12). Considering that apprenticeship in the U.S. is limited to predominantly male occupations in the craft sector, excluding commercial and industrial occupations, that it is unconnected with public schools and frequently inaccessible to minority and disadvantaged young people, and that it tends to enroll youth older than 18, it is simply not a viable pathway to career entry or adulthood.

Federally-funded youth employment programs are another candidate for U.S. institutions comparable to the West German dual system. Of the great variety of programs and program approaches tried between the War on Poverty and the Youth Employment and Demonstration Projects Act, the only one that still exists and can confidently be held up as exemplary is the Job Corps. In general, work experience and employment training programs for in-school youth have shown few enduring positive results (Mangum and Walsh, 1978). The Job Corps's relative success suggests that effectiveness demands a narrow focus—in this case on the most disadvantaged youth—and intensive treatment—including removal from the home environment, remedial academic instruction, explicit attention to attitudes and desirable worker behavior, job skill training in classrooms, instructional shops, on-the-job training, and job placement. Sadly, most youth employment programs have not lasted long enough to accumulate the practitioners' wisdom and evaluators' findings that underly Job Corps practices. No others have had comparable resources to devote to each participant. Even with all these advantages, the Job Corps experiences a high drop-out rate, its benefits accruing to those who remain the longest (Levitan and Johnston, 1975).

By far the most common introduction to employment for U.S. youth is part-time and summer employment while enrolled in high school. The expansion of the service sector of the economy and the dispersal of commercial establishments throughout suburban areas have made part-time jobs accessible to the majority of high school students. Ironically, while the Panel on Youth (1974) and others were urging increased opportunities for youth to encounter the world of work, youth were increasingly taking advantage of those opportunities in fast food restaurants and shopping centers. The larger

irony, however, is that careful examination of the impact of such work experience on adolescent development has not supported the expectation that it would be primarily favorable. An extensive study by Greenberger, Steinberg, and their students has clearly demonstrated that part-time work has costs and well as benefits. (See Steinberg, 1984, for an overview.)

A major limitation to such work experience is that it is in the secondary labor market, where skills and skill training are minimal. Another is that youth jobs do not necessarily expose youth to the presumeably benign influence of adults. One's workmates tend to be one's schoolmates rather than benevolent adult mentors. Furthermore, working tends to create new opportunities for undesirable behavior such as stealing and lying, to increase cynicism about unethical acts, and to produce stress that increases use of alcohol, tobacco, and marijuana. Most seriously, when work hours per week exceed 15 to 20, school performance begins to suffer. Steinberg (1984) concluded his review with the observation that work experience with the strongest favorable consequences is associated with school-related educational programs, programs that are regrettably rare and underdeveloped in the U.S.

Limitations of the West German Sytem

Although I have tried to present a balanced portrayal of the dual system, noting difficulties in connection with the integration of apprenticeship experience with the Berufsschule curriculum and the quality of training offered by small firms, my emphasis has consciously been on the strengths of the system.[6] However, if the dual system is to suggest ways in which U.S. policies and practices might be altered, we must attend to its limitations as well as its strengths.

First, however, I shall address the objection most quickly raised against

the West German system by Americans, that it is inherently undemocratic, an objection I do not accept. In all societies, schools contribute to the process of sorting young people into a hierarchy of occupations and social strata. The perenniel question in U.S. educational sociology is whether and to what extent our schools foster social equality or reproduce prevailing inequalities. The question persists because the issues of value and method are too complex to allow any final resolution. The same issues hamper any effort to compare two nations' educational systems with respect to their egalitarianism. I shall, therefore, offer only a brief argument intended to challenge the assumption that the U.S. system is more democratic than the West German.

U.S. comprehensive high schools, though founded in a democratic ethos, are, in reality, class-stratified institutions. The separation of students into different ability groups and curricula establishes an in-school hierarchy that reflects to a large extent socio-economic differences among students (Rosenbaum, 1980). The cliques that organize students' social interactions outside the classroom maintain such strong divisions that, as one close observer described it, students identified with different social groups might as well not even exist for each other (Cusick, 1973). They inhabit different social worlds despite attending the same school. When persistent residential segregation by class and race is added to this pattern, comprehensive high schools in metropolitan areas become socio-economically distinctive, each being dominated by students from the social class, racial, and ethnic group of the surrounding community. The presence of private and parochial schools exacerbates this segregation.

In West Germany, although enrollment in college preparatory Gymnasien and

in the lowest level secondary schools, Hauptschulen, is highly related to parents' education and occupation (Trommer-Krug, 1980), Realschulen, the middle-level secondary schools, enroll a representative cross-section of society (Führ, 1979). The children of blue collar workers (Arbeiter) are only moderately more likely to become blue collar workers themselves than the children of white collar workers (Angestellten) (Stegmann, 1983, p. 22). The lower and middle-level secondary schools followed by apprenticeship and vocational schooling lead directly to careers, unlike either the general or the vocational tracks in U.S. comprehensive high schools.

Recall Karl Oettinger for a moment, completing at age 18 his thirteenth school grade, albeit in a part-time school, and his third year of apprenticeship, choosing between a position as a skilled mechanic and one as a new car salesman. Imagine a comparable young man in the U.S., hard-working, savvy, and personable but no more than a mediocre student. Approaching high school graduation, he could look forward to three or four years of floundering about in the secondary labor market before finding a career entry position. What definition of democracy or equal opportunity places him at an advantage over Karl Oettinger? If schools are judged, as Lightfoot (1983) suggests, by how well they meet the needs of the least advantaged, then West Germany's system of secondary education is better and more democratic than ours.

Three weaknesses of the dual system have been identified by West German critics and addressed in various ways: the need for early career choice, the narrowness and length of training, and control by employers. The first is the most obvious difficulty from a U.S. perspective, where we are justifiably reluctant to make once-and-for-all decisions about children's futures. Requiring 15-year-olds to decide what they will do for the rest of their lives

seems inherently undesirable. "Late bloomers" should have the chance to demonstrate that their school performance can improve. All youth can use greater maturity and exposure to the world of work before they decide on a career.

A study by Heinz and his associates in Bremen (Heinz, 1983; Rettke, Wachtveitl, and Witzel, 1983; Wachtveitl and Witzel, 1983) reveals some of the costs of this demand. The young people they interviewed periodically over four years demonstrated an adaptive pattern that subordinated their own wishes to the realities of the labor market. Even before the end of Hauptschule drew near, they were abandoning "dream careers" for more mundane possibilities that parents, friends, older siblings, and labor office advisors told them were attainable. When the time came to seek an apprenticeship, their adaptability increased still further, leading them to accept, again with the encouragement of their elders, any apprenticeship placement as preferable to having none. After a year or two in apprenticeship, their career hopes were focussed on finding a job in the field for which they had trained. Most poignantly, they steadfastly maintained that the field in which they happened to find an apprenticeship was in fact the field they most wanted to enter, conveniently forgetting the aspirations they had previously shared with the investigators.

Heinz et al. emphasized that the increased tightness of the West German labor market in recent years has not made most young people reject conventional educational and occupational options, despite the highly visible punks and the tiny but frightening neo-Nazi movement. Rather, the perception of limited career possibilities has strengthened their resolve to obtain the schooling and training they need to compete in the labor market and reduced their selectivity with respect to acceptable occupations. The investigators

denied that the process they described can be considered one of choice. Choice, they argued, is for young people who are successful in school. The young people they studied do not really make choices but adapt themselves to what is available, precisely the argument advanced by Osterman (1980) with respect to working class youth in the U.S. (See also Beckhuis and Friebel-Beyer, 1983.)

Nothing more is needed to illustrate the narrowness of apprenticeship training than a partial listing of occupations; e.g., ceramic tile layer, coppersmith, tax advisor's assistant, glass laboratory instrument maker, pastry shop sales clerk. Occupations that are essentially identical are distinguished for training purposes depending upon whether the placements are in large firms under the jurisdiction of the chamber of industry and commerce or in small firms under the handcraft chamber. Auto mechanics like Karl Oettinger who are trained in small firms meet different requirements, take a different test, spend six months less, and earn a different title than auto mechanics trained in large firms even though their day-to-day work assignments as skilled workers are identical. Reubens (1973, p. 15) noted that a would-be electrician could enter 17 distinct training occupations.

In recent years there has been an intentional consolidation of training occupations, reducing the number by 100 in the past 10 years. There has also been growing emphasis on identifying the common bases for related occupations, for example, the knowledge and skills that anyone working with metals should learn. Reformers working along these lines have tried to introduce an intermediate step in the process of career entry, in which young people choose a broad area, like metal work, and learn about that area before making the narrower choice of a specific career.

The basic vocational education year (Berufsgrundbildungsjahr) is the principal institutional result of this effort. It is a year-long full-time vocational program organized around several broad fields. Young people who complete it are eligible to move into conventional apprenticeships with credit for one year of training, which shortens their time as apprentices and increases their stipend. Although the original proposal was for a school-based program, employers succeed in introducing an employer-based option that is more like conventional apprenticeship but broader in scope and retaining the delayed choice of a specific occupation. Unfortunately, the strength of traditional apprenticeship is so great, that except in those areas and occupations where all employers have agreed to support this innovation, it is regarded by young people, their parents, and employers as a second best arrangement, acceptable only when an ordinary apprenticeship cannot be found (Sonntag and Frieling, 1983; Sonntag, 1983; Wachtveitl and Witzel, 1983).

Employers' control is the pivotal issue in West German debates about the dual system. Employers openly state that they wish to retain control in order to assure that vocational training meets their needs, but it has some overall advantages as well. Their influence over the content of apprentices' training assures that only knowledge and skills deemed useful are taught. By matching the numbers of apprentices to the anticipated need for skilled employees, large firms reduce the pressures created when trained people cannot find employment. For example, as the printing industry changed over to computerized processes, it simply stopped training new apprentices, simultaneously freeing training resources to devote to retraining current employees and reducing the workforce through attrition.

In an interesting reversal of U.S. employers' attitudes toward youth, West German employers prefer to hire young people so they can instill desired attitudes and behavior in them. Just this potential for employers to mold compliant young minds into a well-disciplined and uncritical labor force has made the Social Democrats (SPD) and labor unions consistent advocates for more schooling and less apprenticeship. The schools, being under the control of the state, are more likely than employers, according to this perspective, to attend to the needs of the young people and of society as a whole, to emphasize preparation for citizenship and for productive employment in a wider range of occupations. Taylor (1981) in tracing the development of vocational education in West Germany, found this theme of the need for broader preparation and firmer grounding of workers as citizens to be central to post-war rebuilding and reform of the dual system, when the system was modified in response to these concerns without undergoing radical change.

Reform efforts in West Germany might be characterized as moving in an American direction, toward delayed career choice, comprehensive high schools, more schooling and less on the job training (von Dohnanyi, 1978). I propose that the U.S. could productively move in a German direction, without expecting even to attempt duplicating a system that is deeply rooted in German history and culture. This is one of those cases in which a happy medium seems ideal, but West Germany's happy medium will undoubtedly look different from ours.

Implications for the United States

What can we learn from West Germany? First, that the floundering period is avoidable. It results from the structure of our educational institutions and labor markets, not from immaturity or incapacity on the part of youth. The floundering period does not appear to inflict irreparable harm on the

employment prospects of youth; since it is normative, most grow out of it. Only the "hard-core unemployed" continue to experience past their mid-twenties such tenuous attachment to the labor force. Yet the floundering period can be a terribly difficult time for youth and their parents because of our society's individualism. We blame unemployed and underemployed young people for the failures inflicted on them by our institutions. Reducing the burdens of self-doubt and the anxieties of parents and increasing the rewards available to youth for behaving responsibly are worthwhile goals for improvement in the transition from school to career.

There are other costs to the floundering period as well. If the assumption of the Business-Higher Education Forum (1983) is correct, that improved academic achievement is essential to maintaining and improving national economic productivity and competitiveness, then it must be a waste of productive potential to relegate a large cohort of youth to the secondary labor market where they are neither highly productive nor engaged in increasing their job skills. It would be unwise to accept this assumption uncritically, since there is evidence that the need for highly educated workers has been overstated (Rumberger, 1984). The challenge for educators is to exploit the perception of employers and the general public that broad improvements are needed in education in order to maximize young people's learning, personal development, and labor market prospects.

The second lesson from West Germany is that our vocational education system could be substantially improved, but in two different ways. We could attempt to upgrade its technical quality so that graduates were truly skilled workers. West Geramny as a model suggests that the only way this goal could be achieved would be with substantial cooperation from employers and vastly

increased resources. Most high school shops are simply not equipped to train skilled workers. Alternatively, we could leave the task of training skilled workers with employers and post-secondary schools and alter the purposes and practices of secondary vocational education to make it more like what was once called manual training. Manual training, as I am using the term, means teaching generic employee virtues such as punctuality, neatness, and ability to follow instructions, training in fundamental manual skills to increase dexterity and precision, and supplementing classroom instruction in academic skills by requiring their application in realistic situations.

The first alternative is appealing and will surely be tried in some places, and for that matter has already been implemented in some, but I view the second alternative as more feasible and promising. Surveys of employers consistently indicate that they expect to train their employees in specific job skills (Lynton, Seldin, and Gruhin, 1978; Wilms, 1984). Machines and procedures vary enough even within the same occupational groups that this is often unavoidable. What employers say they want from schools are reliable employees who can read, write, and calculate, learn new information and skills, and work hard. This is the perception that has motivated the neglect of vocational education in recent reform proposals. But this neglect, as vocational educators have been quick to point out, ignores the function of vocational education as an alternative mode of learning for many young people who do not learn well in classrooms. For them, simply demanding more and more rigorous academic instruction and performance is more likely to drive them out of school than make them more employable (National Commission on Secondary Vocational Education, 1984).

For this set of youth, in view of the failure of most vocational programs to prepare youth for vocations, it makes sense to offer manual training, making

the content generic rather than job specific and increasing the emphasis on learning academic material. Such material need not be limited to the most basic either. There is geometry to be learned in calculating the lengths and angles of roof joists, physics in understanding how tempering hardens steel, and biology in relation to sanitation, to name only a few examples. Many vocational educators claim that their programs are a form of dropout prevention, though the evidence is mixed (cf. Combs and Cooley, 1968; Bachman, Green, and Wirtanen, 1971). A recent ethnographic study suggests that vocational programs provide a more comfortable environment than academic classrooms for students whose academic performance is marginal (Claus, 1984; see also Berryman, 1982). It would be consistent with the spirit of recent reform proposals to take advantage of these positive aspects of vocational education but to make it more academically demanding and more effective at inculcating generic skills.

The third lesson is that improving education requires more than increasing class time and improving classroom curriculum and instruction. After two decades of attention to the powerful influence of families, neighborhoods, economic conditions, and race on school performance and after numerous reasonably successful experiential learning programs, it seems gratuitous even to make this statement. It is needed, first, because all of that has been ignored by most of the recent reform recommendations, and second, because nothing that has been done in the U.S. has approached the magnitude of West Germany's system for out-of-classroom learning. That system demonstrates clearly that there are opportunities for learning in workplaces that cannot be matched in classrooms. We need to explore what additional opportunities can be created in this country without turning over the

education of youth entirely to employers or limiting that education to narrow occupational training.

One of the challenges is to determine what incentives employers have or could be offered to provide education to young people who will not necessarily become their own employees. Such programs as Experience-Based Career Education, the Career Intern Program, and Executive High School Interns have answered that question, but on a small scale, as have innumerable local experiential learning programs. It helps to note that not all experiential learning progams have been vocational or career oriented and involved employer placements. Many are aimed at broader goals of adolescent development and citizen education and place young people with public sector and voluntary agencies. Indeed, the whole idea of placement reflects only one mode of experiential learning, in which young people work as individuals in adult organizations. Projects are also undertaken by groups of young people to accomplish important goals in the real world outside of school. Such projects may be cultural, community service, environmental, educational, or political. Some are explicitly vocational, as when building trades students actually construct and sell a house. An advantage of group projects, in addition to their more often altruistic purposes, is that the young people themselves can make decisions that are reserved to adults in worksites. Such youth-directed projects have the potential for expanding the number of experiential learning possibilities and giving participants experience in planning, problem solving, and decision making that can make them better citizens as well as better workers (Hamilton, Basseches, and Richards, in press).

What the West Germans have done that I view as particularly beneficial to youth who are not academically adept but potentially beneficial to all is to

introduce a substantial dose of adult reality into secondary education. The absence of reality is a critical weakness in our schools, as students and employers both complain. We place too great a premium on the ability to learn disembodied subjects, to recall facts and perform procedures exclusively in the artificial context of the classroom, without reference to the most important issues, such as how to know when certain facts and procedures are appropriate. We teach young people to define their success in relation to others' failure and then turn them loose in a world where cooperation is essential.

Just as the West Germans admire and have tried to learn from our bold attempt to provide advanced secondary schooling for all, we should try to learn from their differentiated but vocationally rewarding treatment of youth who do not enter universities. Perhaps the ideal to be sought after in both of our democratic societies is a combination of the vision enunciated by Willard Wirtz (1975) in which education and work would alternate through the lifespan rather than defining distinct life stages, and the vision of Wolfgang Lempert (1981) in which all young people would earn the qualifications required for both skilled employment and university entrance. Perhaps both Wirtz and Lempert are simply offering contemporary details to flesh out the vision that has never been enunciated better than by John Dewey (1916/1966, 1938/1963).

FOOTNOTES

1. Private elementary schools may be found in large cities, but less than 5% are enrolled in them, mostly in Gymnasien, Grund- und Strukturdaten, 1983/84, pp. 24, 34.
2. Kindergartens are equivalent to U.S. nursery schools, enrolling 3-5-year-olds and usually located outside of public shcools.
3. Industry and commerce's share of apprentices fell from 52.1% in 1973 to 45.6% in 1982, while handcraft's share rose from 35% to 39.7%. Industry and commerce absorbed 70,000 more apprentices, but handcraft added 200,000 (Grund- und Strukturdaten, 1983/84, p. 84.
4. There are, to be sure, exceptions to this generalization among the many reports and studies, but this is an accurate characterization of the recommendations that have captured attention in the White House and the general public. See Education Commission of the States, 1984, for a summary, Howe, 1983 for a critical analysis.
5. Proportion of all apprentices finishing in a given year, 1975 or 1976.
6. At the height of West German controversy over educational reform, Reubens, 1973, summarized many of the criticisms of the system, only some of which have been overcome in the past decade. The resulting picture is much less favorable than the one I have sketched.

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